










Ballnose Endmill Ø0.4 Z2

A1-212

Microtools can easily be ground with the appropriate setup for clamping - double support and floating clamp on shank - and the appropriate set of wheels. As long as the tool is held concentric within its V-Holder and the wheels keep their corner geometry, large batches of standard endmills can be manufactured (up to 300 pieces per palette). The polyvalent adjustability of the double support - linear and rotational adjustment - allows a perfect alignment of the V-Holder with respect to the shank axis. The W20 clamping finally has the functionality of a driving dog and to keep the x-position. The radiusaxisinterpolation can be executed with limited rotation of C-axis or fix C-Position, if the geometry of the support



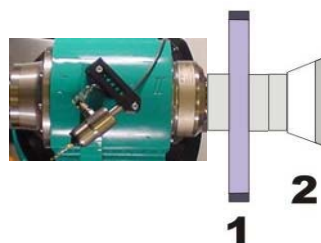
1. Cycletime for Production

Tool specifications					
Diameter 0.4 mm, Cutting edges 2, Length 1.2 mm, Helix 30 deg					
Material HM					
Operations					
Feed [mm/Min]	2000	150	50	150	150
Power [kW]		4	2	1	1
Cutting feed [m/s]		24	24	24	24
Used wheels					
Grinding time [s]	15	32	34	28	28
Total cycle time	2 Min 16				

The mentioned cycle times are indicative. The material to be ground, different grinding wheels or other coolants can influence the cycle times considerably.

2. Used Grinding Wheels

1 Ø100 1A1 B2 D25
2 Ø75 11V9 D25



3. Machine and Software Requirements

Machines: 5 axes CNC grinders : SIRIUS HPM, NORMA CFG
Control: Fanuc 31i
Coolant: Synthetic Oil, pressure 6 - 7 bar
Software: Quinto 5

responsible engineer: OP,19.2.07

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